

An Excel-Based Educational Platform for Design Analyses of Pump-Pipe Systems

Authors : Mohamed M. El-Awad

Abstract : This paper describes an educational platform for design analyses of pump-pipe systems by using Microsoft Excel, its Solver add-in, and the associated VBA programming language. The paper demonstrates the capabilities of the Excel-based platform that suits the iterative nature of the design process better than the use of design charts and data tables. While VBA is used for the development of a user-defined function for determining the standard pipe diameter, Solver is used for optimising the pipe diameter of the pipeline and for determining the operating point of the selected pump.

Keywords : design analyses, pump-pipe systems, Excel, solver, VBA

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